

FORM PTO-1390
(REV 10-94)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

11709.46USWO

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.5)

UNKNOWN 10/009165

INTERNATIONAL APPLICATION NO.

INTERNATIONAL FILING DATE

PRIORITY DATE CLAIMED

PCT/SE00/00979

MAY 18, 2000

JULY 2, 1999

TITLE OF INVENTION

METHOD IN AND DEVICE FOR THE MANUAL LUBRICATION OF A PLURALITY OF LUBRICATION POINTS

APPLICANT(S) FOR DO/EO/US

FUNCH, Paer-Olof; REHN, Niklas.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(I).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☒ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☒ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98., Form 1449, 1 reference.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: Preliminary Amendment, Marked up claim page 4, Published Front Page of PCT/SE00/00979, PCT/ISA/210; PCT/IB/308; PCT/IB/332, PCT/IPEA/409

U.S. APPLICATION NO (if known, see 37 CFR 1.5)

UNKNOWN

INTERNATIONAL APPLICATION NO

PCT/SE00/00979

PCT/PTO

07 NOV 2001

ATTORNEY'S DOCKET NUMBER

11709.46USWO

17. [X] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a) (1)-(5)):

Search Report has been prepared by the EPO or JPO.....\$890.00

International preliminary examination fee paid to USPTO

(37 CFR 1.492(a)(1)).....\$710.00

No international preliminary examination fee paid to USPTO (37 CFR 1.482)

but international search fee paid to USPTO (37 CFR 1.445(a)(2)).....\$740.00

Neither international preliminary examination fee (37 CFR 1.482) nor

international search fee (37 CFR 1.445(a)(3)) paid to USPTO \$1040.00

International preliminary examination fee paid to USPTO (37 CFR 1.482)

and all claims satisfied provisions of PCT Article 33(2)-(4).....\$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT = \$1040.00Surcharge of \$130.00 for furnishing the oath or declaration later than [] 20 [] 30
months from the earliest claimed priority date (37 CFR 1.492(e)).

\$0

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	9	-20 =	9.00	X \$18.00	\$0
Independent claims	2	-3 =	42.00	X \$84.00	\$0
MULTIPLE DEPENDENT CLAIM(S) (if applicable)				+ \$260.00	\$0

TOTAL OF ABOVE CALCULATIONS = \$1040.00Reduction by 1/2 for filing by small entity, if applicable. Small entity status is claimed
pursuant to 37 CFR 1.27

\$520.00

SUBTOTAL = \$520.00Processing fee of \$130.00 for furnishing the English translation later than [] 20 [] 30
months from the earliest claimed priority date (37 CFR 1.492(f)).

+ \$0

TOTAL NATIONAL FEE = \$520.00Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property

+ \$40.00

TOTAL FEES ENCLOSED = \$560.00Amount to be:
refunded

\$0

charged

\$0

a. [X] Check(s) in the amount of \$520.00 and \$40.00 to cover the above fees is enclosed.

b. [] Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees.
A duplicate copy of this sheet is enclosed.c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any
overpayment to Deposit Account No. 13-2725.**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR
1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO

John J. Gresens

MERCHANT & GOULD

P.O. Box 2903

Minneapolis, MN 55402-0903

SIGNATURE: 

NAME: John J. Gresens

REGISTRATION NUMBER: 33,112

S/N unknown

10/009165
JC10 Rec'd PCT/PTO 07 NOV 2001
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Funck, et al. Docket No.: 11709.46USWO
Serial No.: unknown Filed: concurrent herewith
Int'l Appln No.: PCTSE0000979 Int'l Filing Date: May 18, 2000
Title: METHOD IN AND DEVICE FOR THE MANUAL LUBRICATION OF A
PLURALITY OF LUBRICATION POINTS

#4/a

CERTIFICATE UNDER 37 CFR 1.10

'Express Mail' mailing label number: EL669945457US

Date of Deposit: November 7, 2001

I hereby certify that this paper or fee is being deposited with the United States Postal Service 'Express Mail Post Office To Addressee' service under 37 CFR 1.10 and is addressed to the Commissioner for Patents, Washington, D.C. 20231.

By: 

Name: Chris Stordahl

PRELIMINARY AMENDMENT

Box PCT
Assistant Commissioner for Patents
Washington, D. C. 20231

Dear Sir:

In connection with the above-identified application filed herewith, please enter the following preliminary amendment (marked-up copy attached):

IN THE ABSTRACT

Insert the attached Abstract page into the application as the last page thereof.

IN THE SPECIFICATION

A courtesy copy of the present specification is enclosed herewith. However, the World Intellectual Property Office (WIPO) copy should be relied upon if it is already in the U.S. Patent Office.

IN THE CLAIMS

Please amend the following claims:

1000455-11004

3. (AMENDED) Method according to claim 1, characterised in that on identification of an individual lubrication point (10) the quantity of lubricant is shown that is to be administered to the lubrication point in question and that when the said quantity has been administered this is shown (5) and/or indicated by audible means (16).
4. (AMENDED) Method according to claim 1, characterised in that a list (17) of lubrication points visited during a lubrication round and the quantity of lubricant individually administered to each lubrication point is retrieved from the memory (8; 12).
5. (AMENDED) Method according to claim 1, characterised in that the time for a subsequent lubrication round and information on the quantity of lubricant for the individual lubrication points is calculated from information stored in the memory (8; 12).

REMARKS

The above preliminary amendment is made to remove multiple dependencies from claims 3, 4, and 5. Please refer to the Marked-Up claim page 4, attached herewith.

A new abstract page is supplied to conform to that appearing on the publication page of the WIPO application, but the new Abstract is typed on a separate page as required by U.S. practice.

Applicants respectfully request that the preliminary amendment described herein be entered into the record prior to calculation of the filing fee and prior to examination and consideration of the above-identified application.

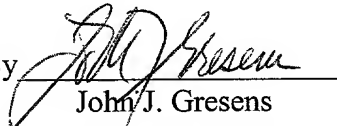
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, John J. Gresens (Reg. No. 33,112), at (612) 371.5265.

Respectfully submitted,

MERCHANT & GOULD P.C.
Post Office Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Dated: November 7, 2001

By


John J. Gresens
Reg. No. 33,112

JJG/rw



Claims

1. Method in the manual lubrication of a plurality of lubrication points (10) with a quantity of lubricant individually predetermined for each lubrication point, **characterised in that** the lubrication points are provided with an individual identification (11) information on the quantity of lubricant that is to be administered to each individual lubrication point in each instance of lubrication is stored in a memory (12), in the lubrication of a lubrication point the identification (11) of the point is detected and information on the predetermined quantity of lubricant for the lubrication point identified is retrieved from the memory (12), following which the said quantity of lubricant is administered to the lubrication point, information on the lubrication carried out and the time thereof is stored in the memory.
2. Method according to claim 1, **characterised in that** in connection with a planned lubrication round information on the quantities of lubricant for each individual lubrication point stored in the aforementioned memory (12) is fed from that memory to a second, mobile memory (8) and that after carrying out the lubrication round the said information is transmitted from the second memory 8 to the aforementioned memory (12).
3. Method according to claim 1 **or 2**, **characterised in that** on identification of an individual lubrication point (10) the quantity of lubricant is shown that is to be administered to the lubrication point in question and that when the said quantity has been administered this is shown (5) and/or indicated by audible means (16).
4. Method according **any of claims 1 to 3**, **characterised in that** a list (17) of lubrication points visited during a lubrication round and the quantity of lubricant individually administered to each lubrication point is retrieved from the memory (8; 12).
5. Method according to **any of claims 1 to 3** **characterised in that** the time for a subsequent lubrication round and information on the quantity of lubricant for the individual lubrication points is calculated from information stored in the

21PPTS

Method in and device for the manual lubrication of a plurality of lubrication points

The present invention relates to a method according to the pre-characterising part of claim 1 and a device according to the pre-characterising part of claim 6.

5 In the manual lubrication of a machine, for example a papermaking machine, having a plurality of lubrication points, the person carrying out the lubrication has, as an aid to memory, a lubrication diagram containing information on the location of each lubrication point on the machine, the frequency of lubrication for that lubrication point and the requisite quantity of lubricant. Performance of the lubrication is usually confirmed by entering a date and signature for all lubrication points.

10 It has been shown that information on the lubrication carried out is sometimes incorrect, there being many possible reasons for this, but the important fact is that failure to carry out lubrication may cause serious damage to machinery with machine shutdowns, resulting in lost production. The question of proof is a difficult one when
15 it comes to verifying in the case of a damaged bearing, for example, whether or not lubrication has been carried out in the prescribed manner.

The object of the present invention is to provide a method of the said type, by means of which the lubrication of all lubrication points with the correct quantity of lubricant
20 can be ensured and in which the lubrication is reliably documented. This is achieved by means of the features specified in the characterising part of claim 1.

A device according to the invention has a combination of the characteristics specified in claim 6.

25 The invention will be explained in more detail below with reference to the drawing attached in which figure 1 shows a diagram of a device according to the invention and figure 2 illustrates the functioning thereof.

30 In the drawing 1 generally denotes a lubricant gun, which is connected by way of a line 2 to a lubricant reservoir (not shown). The gun contains a pump, which is manually actuated by means of a lever 3, and a measuring device 4 with indicating element 5. The lubricant reservoir is connected by way of the line 2, the pump device and the measuring device 4 to a nozzle 6 arranged on a tube 7.

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5 A control element 8, on the casing of which the indicating element 5 is suitably mounted, is connected to the measuring device 4, the pump device and lubrication point identification device 9 arranged at the nozzle 6. The said identification device is designed to interact with an identification element 11, assigned to each lubrication point 10 and located so that when the nozzle 6 is connected to the nipple of the lubrication point 10 the lubrication point identification device is capable of reading off the information in the identification element that is unique to the lubrication point in question.

10 In the embodiment shown in figure 1 the control element 8 is designed to be connected by radio communication, shown by a line 14, to a fixed computer 12, the memory of which contains data on the lubrication requirement of each separate lubrication point. By means of radio communication, therefore, information on the quantity of lubricant for each separate lubrication point is transmitted to the control
15 element 8, and information on the lubrication performed at the individual lubrication points is transmitted from the control element 8 to the memory of the computer, so that following a lubrication round the computer memory contains information on which lubrication points have been visited and what quantity of lubricant has been administered. It is thereby possible to produce a lubrication report either on the
20 screen 13 of the computer 12 or in a conventional printout, in which there is the facility for specially identifying any lubrication points missed.

Radio communication implies communication in real time. The scope of the invention obviously also includes communication by other means based, for
25 example, on infrared technology, and an alternative embodiment, according to which the control element 8 contains a memory, which can be connected to the memory of the computer 12 in such a way that prior to a lubrication round information regarding the quantity of lubricant is fed to the memory of the control element 8 and following the lubrication round the memory of the computer 12 is updated by a transfer of
30 information from the memory of the control element 8.

Referring to figure 2, it will now be explained what happens before, during and after a lubrication round. It will be obvious that the process differs depending on whether the control element 8 of the lubricant gun 1 is designed to communicate with the
35 computer 12 in real time or whether the control device 8 is equipped with a memory that is coupled to the computer 12 for the exchange of information before and after a lubrication round. In the first aforementioned case the information is transferred

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between the computer 12 and the control element 8 instead of to each separate lubrication point. In figure 2 the transmission of the lubrication requirement of each lubrication point to the control element 8 is indicated by a block 15. The person carrying out the lubrication round, hereinafter called the greaser, either follows a predetermined lubrication route or carries out the lubrication round in the individual lubrication point order indicated on the indicating element 5 of the lubrication gun 1. When the nozzle 6 of the lubricant gun 1 is connected to a lubrication point 10, information on the lubrication point in question is obtained automatically by means of identification elements 11 belonging to the lubrication point in question and the identification device 9 of the lubricant gun 1 on the indicating element 5. Information on the quantity of lubricant that is to be administered to the lubrication point is either stored in the control element 8, or it is fed to the latter in real time from the computer 12 and this information shown on the indicating element 5, when the identity of the lubrication point has been verified. The greaser begins dosing the lubrication point and can continuously see on the indicating element 5 how much lubricant has been fed in by means of the measuring device 4, or alternatively what quantity of lubricant still remains to be administered to the lubrication point (countdown). An audible alarm device 16 is appropriately designed to warn the greaser that the set dosage has been reached. Information on the lubrication performed is stored in the control unit 8 or is transmitted in real time to the computer 12. In figure 2, information lists 17 symbolise the fact that this information can be taken from the control element 8, but it will be obvious that corresponding information can be retrieved from the fixed computer 12 or shown on the screen 13.

If, after completing a lubrication round, there are one or more lubrication points that have not been visited, a warning to this effect is received from the control unit 8 either on the screen 13 or through a separate print-out. There is therefore no risk whatsoever of damage possibly occurring as a result of failure to carry out lubrication.

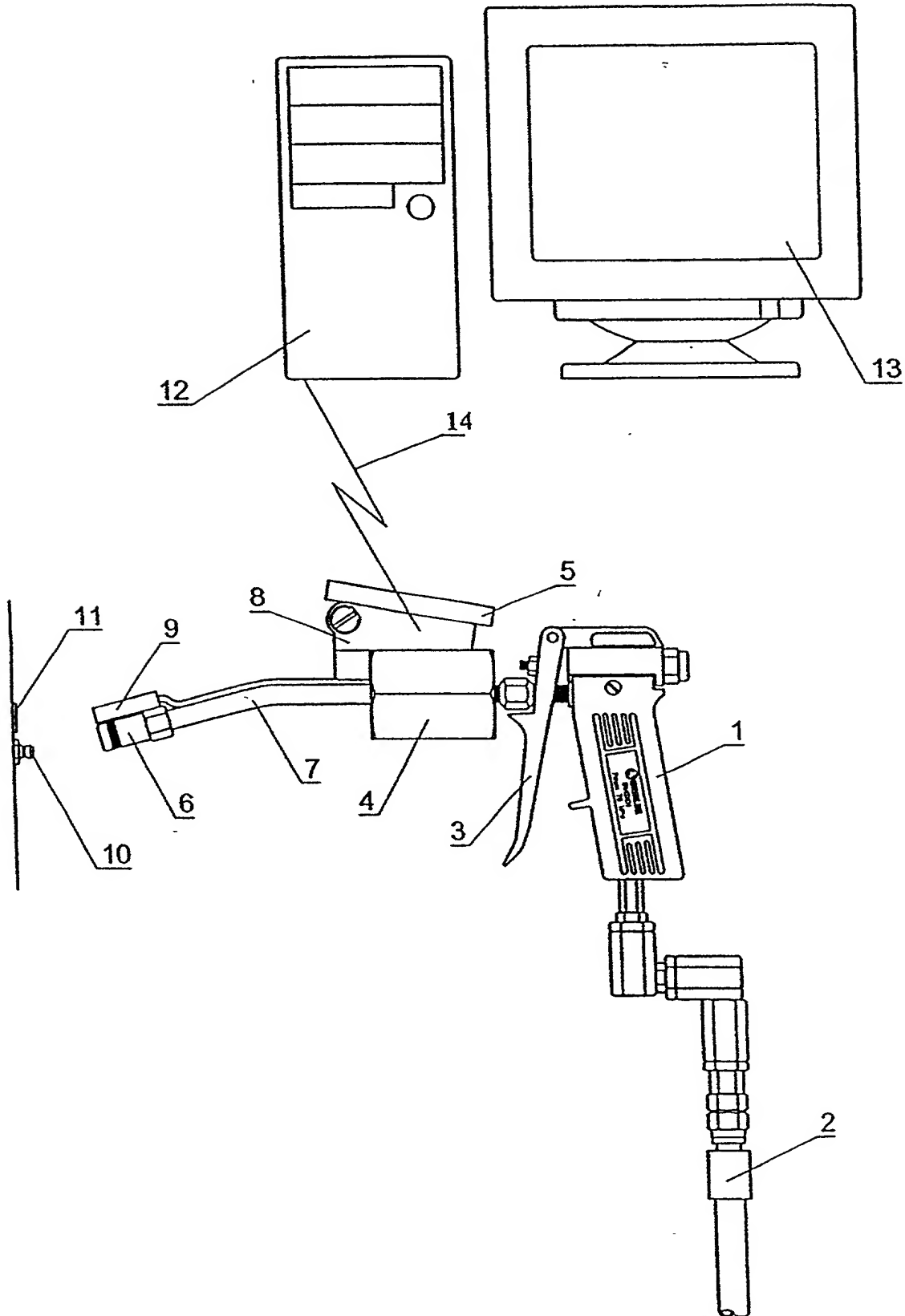
Claims

1. Method in the manual lubrication of a plurality of lubrication points (10) with a quantity of lubricant individually predetermined for each lubrication point, **characterised in that** the lubrication points are provided with an individual identification (11) information on the quantity of lubricant that is to be administered to each individual lubrication point in each instance of lubrication is stored in a memory (12), in the lubrication of a lubrication point the identification (11) of the point is detected and information on the predetermined quantity of lubricant for the lubrication point identified is retrieved from the memory (12), following which the said quantity of lubricant is administered to the lubrication point, information on the lubrication carried out and the time thereof is stored in the memory.
2. Method according to claim 1, **characterised in that** in connection with a planned lubrication round information on the quantities of lubricant for each individual lubrication point stored in the aforementioned memory (12) is fed from that memory to a second, mobile memory (8) and that after carrying out the lubrication round the said information is transmitted from the second memory 8 to the aforementioned memory (12).
3. Method according to claim 1 or 2, **characterised in that** on identification of an individual lubrication point (10) the quantity of lubricant is shown that is to be administered to the lubrication point in question and that when the said quantity has been administered this is shown (5) and/or indicated by audible means (16).
4. Method according any of claims 1 to 3, **characterised in that** a list (17) of lubrication points visited during a lubrication round and the quantity of lubricant individually administered to each lubrication point is retrieved from the memory (8; 12).
5. Method according to any of claims 1 to 3, **characterised in that** the time for a subsequent lubrication round and information on the quantity of lubricant for the individual lubrication points is calculated from information stored in the

memory (8; 12).

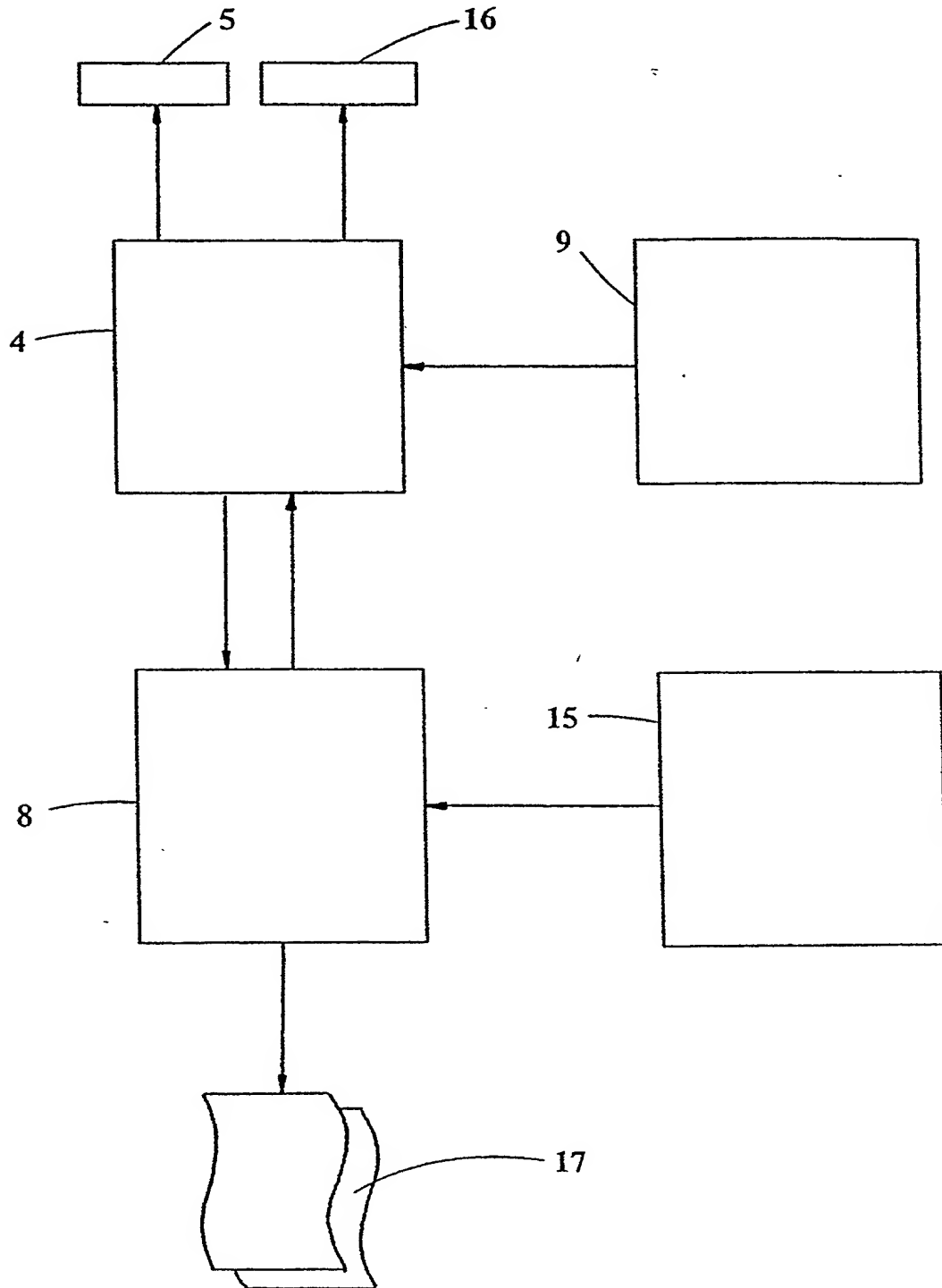
- 5
6. Device for the manual lubrication of a plurality of lubrication points (10) with a quantity of lubricant individually predetermined for each lubrication point, **characterised in that** the device comprises a combination of:
- 10 an identification element (11) unique to the lubrication point at each lubrication point (10), a lubricant gun (1) with a lubricant reservoir, which is connected by way of a pump device and a measuring device (4) with indicating element (5) to a nozzle (6), a control element (8) connected to the measuring device (4) and the pump device, connected to which control element is a memory containing stored data on the lubrication requirement of each individual lubrication point, with which memory the lubricant gun (1) is designed to communicate for transfer to the control element (8) of a lubricant quantity specification for each separate lubrication point and for feeding information stored in the control
- 15 element (8) on the lubrication carried out at the individual lubrication points, and a lubrication point identification device (9) arranged in connection with the nozzle (6) and designed, when the nozzle (6) is connected to a lubrication point, to automatically identify the lubrication point (10) in question and its lubrication requirement by means of the identification element (11), together with means for storing in the memory data on the quantity of lubricant administered to the lubrication point in question in each lubrication operation.
- 20
7. Device according to claim 6, **characterised in that** the memory is the memory of a fixed computer (12) and that the device comprises communications equipment designed to achieve communication between the control element (8) and the computer memory.
- 25
8. Device according to claim 7, **characterised in that** the communications equipment is radio communications equipment.
- 30
9. Device according to claim 7, characterised in that the control element (8) comprises memory elements designed to store the said data and information for a time interval between the beginning and end of one lubrication round and that the memory elements are designed to communicate with the computer memory.
- 35

FIG 1



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FIG 2



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MERCHANT & GOULD P.C.

United States Patent Application

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: METHOD IN AND DEVICE FOR THE MANUAL LUBRICATION OF A PLURALITY OF LUBRICATION POINTS

The specification of which

- a. ☒ is attached hereto
b. ☐ was filed on _____ as application serial no. _____ and was amended on _____ (if applicable) (in the case of a PCT-filed application) described and claimed in international no. PCT/SE00/00979 filed May 18, 2000 and as amended on _____ (if any), which I have reviewed and for which I solicit a United States patent.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

- a. ☐ no such applications have been filed.
b. ☒ such applications have been filed as follows:

FOREIGN APPLICATION(S), IF ANY, CLAIMING PRIORITY UNDER 35 USC § 119			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)
SWEDEN	9902547-0	02-JULY-1999	
ALL FOREIGN APPLICATION(S), IF ANY, FILED BEFORE THE PRIORITY APPLICATION(S)			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)

I hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. APPLICATION NUMBER	DATE OF FILING (day, month, year)	STATUS (patented, pending, abandoned)

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

U.S. PROVISIONAL APPLICATION NUMBER	DATE OF FILING (Day, Month, Year)

I acknowledge the duty to disclose information that is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (reprinted below):

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

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- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
 - (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.
- (b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and
- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim;
 - or
 - (2) It refutes, or is inconsistent with, a position the applicant takes in:
 - (i) Opposing an argument of unpatentability relied on by the Office, or
 - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

- (c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:
- (1) Each inventor named in the application;
 - (2) Each attorney or agent who prepares or prosecutes the application; and
 - (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.
- (e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby appoint the following attorney(s) and/or patent agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith:

Albrecht, John W.	Reg. No. 40,481	Leonard, Christopher J.	Reg. No. 41,940
Ali, M. Jeffer	Reg. No. 46,359	Liepa, Mara E.	Reg. No. 40,066
Altera, Allan G.	Reg. No. 40,274	Lindquist, Timothy A.	Reg. No. 40,701
Anderson, Gregg I.	Reg. No. 28,828	Lown, Jean A.	Reg. No. 48,428
Batzli, Brian H.	Reg. No. 32,960	Mayfield, Denise L.	Reg. No. 33,732
Beard, John L.	Reg. No. 27,612	McDonald, Daniel W.	Reg. No. 32,044
Berns, John M.	Reg. No. 43,496	McIntyre, Jr., William F.	Reg. No. 44,921
Branch, John W.	Reg. No. 41,633	Mitchem, M. Todd	Reg. No. 40,731
Brown, Jeffrey C.	Reg. No. 41,643	Mueller, Douglas P.	Reg. No. 30,300
Bruess, Steven C.	Reg. No. 34,130	Nelson, Anna M.	Reg. No. 48,935
Byrne, Linda M.	Reg. No. 32,404	Parsons, Nancy J.	Reg. No. 40,364
Campbell, Keith	Reg. No. 46,597	Pauly, Daniel M.	Reg. No. 40,123
Carlson, Alan G.	Reg. No. 25,959	Phillips, John B.	Reg. No. 37,206
Caspers, Philip P.	Reg. No. 33,227	Pino, Mark J.	Reg. No. 43,858
Clifford, John A.	Reg. No. 30,247	Prendergast, Paul	Reg. No. 46,068
Cook, Jeffrey	Reg. No. P-48,649	Pytel, Melissa J.	Reg. No. 41,512
Dargnault, Ronald A.	Reg. No. 25,968	Qualey, Terry	Reg. No. 25,148
Dafey, Dennis R.	Reg. No. 34,994	Reich, John C.	Reg. No. 37,703
Datton, Julie R.	Reg. No. 36,414	Reiland, Earl D.	Reg. No. 25,767
DeVries Smith, Katherine M.	Reg. No. 42,157	Samuels, Lisa A.	Reg. No. 43,080
DiPietro, Mark J.	Reg. No. 28,707	Schmaltz, David G.	Reg. No. 39,828
Doscotch, Matthew A.	Reg. No. P-48,957	Schuman, Mark D.	Reg. No. 31,197
Edell, Robert T.	Reg. No. 20,187	Schumann, Michael D.	Reg. No. 30,422
Epp Ryan, Sandra	Reg. No. 39,667	Scull, Timothy B.	Reg. No. 42,137
Glance, Robert J.	Reg. No. 40,620	Sebald, Gregory A.	Reg. No. 33,280
Goggin, Matthew J.	Reg. No. 44,125	Skoog, Mark T.	Reg. No. 40,178
Golla, Charles E.	Reg. No. 26,896	Spellman, Steven J.	Reg. No. 45,124
Gorman, Alan G.	Reg. No. 38,472	Stewart, Alan R.	Reg. No. 47,974
Gould, John D.	Reg. No. 18,223	Stoll-DeBell, Kirstin L.	Reg. No. 43,164
Gregson, Richard	Reg. No. 41,804	Sullivan, Timothy	Reg. No. 47,981
Gresens, John J.	Reg. No. 33,112	Sumner, John P.	Reg. No. 29,114
Hammer, Samuel A.	Reg. No. 46,754	Swenson, Erik G.	Reg. No. 45,147
Hamre, Curtis B.	Reg. No. 29,165	Tellekson, David K.	Reg. No. 32,314
Harrison, Kevin C.	Reg. No. 46,759	Trembath, Jon R.	Reg. No. 38,344
Hertzberg, Brett A.	Reg. No. 42,660	Tunheim, Marcia A.	Reg. No. 42,189
Hillson, Randall A.	Reg. No. 31,838	Underhill, Albert L.	Reg. No. 27,403
Holzer, Jr., Richard J.	Reg. No. 42,668	Vandenburgh, J. Derek	Reg. No. 32,179
Hope, Leonard J.	Reg. No. 44,774	Wahl, John R.	Reg. No. 33,044
Jardine, John S.	Reg. No. P-48,835	Weaver, Paul L.	Reg. No. P-48,640
Johns, Nicholas P.	Reg. No. 48,995	Welter, Paul A.	Reg. No. 20,890
Johnston, Scott W.	Reg. No. 39,721	Whipps, Brian	Reg. No. 43,261
Kadievitch, Natalie D.	Reg. No. 34,196	Whitaker, John E.	Reg. No. 42,222
Kaseburg, Frederick A.	Reg. No. 47,695	Wier, David D.	Reg. No. P-48,229
Kettelberger, Denise	Reg. No. 33,924	Williams, Douglas J.	Reg. No. 27,054
Keys, Jeramie J.	Reg. No. 42,724	Withers, James D.	Reg. No. 40,376
Knearl, Homer L.	Reg. No. 21,197	Witt, Jonelle	Reg. No. 41,980
Kowalchyk, Alan W.	Reg. No. 31,535	Wu, Tong	Reg. No. 43,361
Kowalchyk, Katherine M.	Reg. No. 36,848	Young, Thomas	Reg. No. 25,796
Lacy, Paul E.	Reg. No. 38,946	Zeuli, Anthony R.	Reg. No. 45,255
Larson, James A.	Reg. No. 40,443		

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Merchant & Gould P.C. to the contrary.

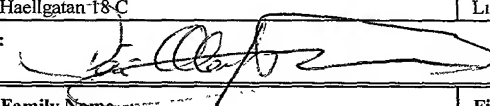
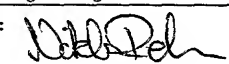
I understand that the execution of this document, and the grant of a power of attorney, does not in itself establish an attorney-client relationship between the undersigned and the law firm Merchant & Gould P.C., or any of its attorneys.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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